

REMARKS

Claims 1, 3, 6, 8, 9, 11-13 and 15-16 are pending. Claims 2, 4, 5, 7, 10 and 14 have been canceled without prejudice.

Claim 1 has been amended to recite the subject matter of canceled claim 2. Claim 6 has been amended to recite the subject matter of canceled claim 7.

Claims 1, 9, 11, 15 and 16 have been amended to recite that the hydrogenated polymer is an acrylonitrile-butadiene copolymer as originally recited in claim 5 (now canceled).

No new matter has been added by way of the above-amendment.

Issues Under 35 U.S.C. § 101

Claim 10 is rejected under 35 U.S.C. § 101. In view of the cancelation of claim 10, this rejection is rendered moot.

Issues Under 35 U.S.C. § 112, Second Paragraph

Claim 6 is rejected under 35 U.S.C. § 112, second paragraph, for allegedly being indefinite. Applicants respectfully traverse the rejection.

The Examiner objects to claim 6 for reciting that formula (II) has an “amine” group, since according to formula (II), both X and Y do not necessarily have to be a “NH₂-“ group.

In response, Applicants have amended claim 6 to recite the subject matter of claim 7, i.e., claim 6 recites that the amine group containing compound is an amine according to formula (III) which is as follows:



As such, claim 6 particularly points out and distinctly claims the subject matter which Applicants regard as the invention. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Issues Under 35 U.S.C. § 103

Claims 1-9 and 11-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 6,756,451 (Belt et al.) in view of U.S. 6,831,136 (Chao et al.) and U.S. 6,211,292 (St. Clair). Applicants respectfully traverse the rejection.

Claims 1, 3, 6, 8, 9 and 11:

Applicants respectfully submit that Chao et al. is not prior art to the present invention with respect to claims 1, 3, 6, 8, 9 and 11. With respect to Chao et al., Applicants note that this reference is only available under 35 U.S.C. § 102(e) as of its filing date of January 14, 2003. Accordingly, Applicants have removed Chao et al. from the prior art by amending the present claims to be consistent with the written description in the instant priority document, EP 02102048.2. Specifically, Applicants have amended claim 1 of the present application to be the same as claim 8 (i.e., a combination of claim 1 with claim 8) of the instant priority document, EP 02102048.2, and the bases for the other claims of the present application are found in EP 02102048.2. Thus, the present invention has priority back to the filing date (July 19, 2002) of EP 02102048.2 and Chao et al. is not prior art against claims 1, 3, 6, 8, 9 and 11. Applicants enclose a copy of EP 02102048.2 for the Examiner's review.

Furthermore, Applicants respectfully submit that the combination of Belt et al. and St. Clair do not combine to render the claims 1, 3, 6, 8, 9 and 11 without the teachings of Chao et al. to supplement the teachings of Belt et al. and St. Clair. Applicants now comment on the combination of Belt et al. and St. Clair.

Belt et al. disclose the hydrogenation of a butadieneacrylonitrile copolymer which is carried out in latex in the presence of hydrazine, an oxidizing compound and a catalyst, and further discloses the addition of an amine compound such as a compound of formula I to the hydrogenated butadiene-acrylonitrile copolymer. However, Belt et al do not suggest the mixing of a mixture of the hydrogenated butadiene-acrylonitrile copolymer with an amine compound, with a compound of formula (I) which is capable of reacting with an amine as used in the present invention.

St. Clair discloses curing with an isocyanate, of hydroxyl, acid or amine functionalized hydrogenated block copolymer of vinyl aromatic hydrocarbon (such as styrene) and a conjugated diene (such as butadiene). St. Clair is believed to be irrelevant to the present invention for the following reasons. First, St. Clair discloses the hydrogenation of a block copolymer of vinyl aromatic hydrocarbon (such as styrene) and a conjugated diene (such as butadiene), but, St. Clair is silent on the hydrogenation of a butadiene-acrylonitrile copolymer. Secondly, St. Clair gives a detailed explanation for the preparation of hydroxyl or acid functionalization of the hydrogenated block copolymer (col. 3, line 25 to col. 4, line 58), but, with regard to the amine functionalization thereof, St. Clair only discloses a process of first forming an acid modified block copolymer and then reacting the acid modified block polymer with ammonia (col. 4, lines 59-63), which process is different from the process of the present invention. Thirdly, St. Clair teaches that the isocyanate-cured hydroxyl- or acid- or amine-functionalized hydrogenated block copolymer is useful for coatings, adhesives, sealants and modified asphalts (col. 1, lines 43-50). This teaches nothing about the modified hydrogenated butadiene-acrylonitrile copolymer which exhibits improved compression set and improved creep resistance and is useful in automobile fields.

In summary, it is believed that claims 1, 3, 6, 8, 9 and 11 of the present application are not obvious from the hypothetical combination of Belt et al with St. Clair.

Claims 12, 13, 15 and 16:

Applicants are unclear whether there is sufficient written description support in the instant priority document, EP 02102048.2 for claims 12, 13, 15 and 16 to be afforded priority to the filing date of EP 02102048.2. Even assuming *arguendo*, that Chao et al. is prior art to claims 12, 13, 15 and 16, Applicants respectfully submit that claims 12, 13, 15 and 16 are not made obvious by the combination of Belt et al., Chao et al. and St. Clair.

Applicants respectfully submit that the comments given above with respect to the patentable distinctions between the present invention and the teachings of Belt et al. and St. Clair are equally applicable here with respect to claims 12, 13, 15 and 16 (since claims 12, 13, 15 and 16 depend from claim 1 indirectly) and the comments are herein incorporated by

reference in their entirety. Furthermore, Chao et al. do not cure the deficiencies of the teachings of Belt et al. and St. Clair.

Chao at al disclose an amine-terminated polybutadiene having terminal amino group(s). This amine-terminated polybutadiene is prepared by the addition of acrylonitrile to a hydroxyl-terminated polybutadiene, followed by hydrogenation. Chao et al are silent on the modification of hydrogenated butadiene-acrylonitrile copolymer. Thus, the instant claims 12, 13, 15 and 16 **are** believed not obvious over Belt et al combined with Chao et al and St. Clair.

Based on the foregoing, a *prima facie* case of obviousness cannot be said to exist over the claims, as presently amended, and reconsideration and withdrawal of the rejection are respectfully requested.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Garth M. Dahlen, Ph.D., Esq., Reg. No. 43,575 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

By Marc S. Weiner #43575
Marc S. Weiner, Reg. No. 32,181 *A/*
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road
Suite 100 East
P.O. Box 747
Falls Church, Virginia 22040-0747
(703) 205-8000
Attorney for Applicant

Enclosed: The instant priority document, EP 02102048.2